

REMARKS

Reconsideration of the subject application as amended herein is respectfully requested.

The Applicant would like to thank the Examiner for the interview of May 9, 2003.

As explained at the interview, the present application pertains to an apparatus and method for projecting images from digital data with improved relative motion perception. The improvement consists of generating for each frame one or more black intervals during which no perceptible light is transmitted. Importantly, the duration of the black interval is selected to induce a stroboscopic phenomenon. The specification clearly defines that this induced effect is analogous to the stroboscopic phenomenon induced in viewers' eyes by a shutter in the standard optical movie projectors (see for instance, page 6, first full paragraph).

As discussed at the interview, different kinds of stroboscopic phenomenon are known that are associated with various kinds of visual effects. Therefore, since the present application only pertains to blinking and the specific stroboscopic phenomenon associated therewith, in order to differentiate this effect from other types of stroboscopic phenomena, the specification and the claims have been amended to refer to a 'blink effect.'

As discussed in the specification, it has been found that this type of effect can be obtained by using one or more blanking signals that have a total duration of about 50% of the frame period of the digital video signal. Moreover, the individual blanking signals may have a duration in the range of 1-10msec. For example, a typical video signal contains 24 frames/second, which translates to a frame period of 41.6msec. For

this type of video signals stroboscopic effect can be provided by two blanking signals per frame, each having a duration of about 41.6/4 or 10.4 msec.

The claims have been rejected as being anticipated by the Heimbuch reference. The Applicant respectfully traverses these rejections. As discussed above, and clearly defined in the claims, the present invention provides blanking signals in a stream of video signals to a digital projector to induce a blink effect that is a very specific stroboscopic effect in a viewer's eyes. Heimbuch discloses an apparatus for generating color images using a color wheel with the three primary colors: red, blue and green. The wheel is used to generate color subframes for each frame. In one embodiments shown in Figs. 5a-5d four to six subframes are generated. The purpose of this process is to present more than one image of a particular color to the eye during a single frame thereby providing a better color blending. To insure color separation between the subframes, a small blanking period is provided, as shown in Figs. 7a, 7b. The duration of these blanking periods is not provided in the specification. In Fig. 7a the total duration of the three blanking periods is about 11.4% of the total frame period. Each blanking period is about 3.8% of the frame duration. At 60 frames/second, the duration of each blanking period is 0.63 msec. Clearly these blanking periods are insufficient to induce the blink effect. Moreover, it should be kept in mind that Heimbuch project in sequence a red, a green and a blue image at a rate fast enough so that the eye (and brain) blends the three images and sees a single image in color. However, the blanking periods between each of the images must be carefully chosen so that they are not too long, because otherwise, the eye will separate the color image into its three components of different respective colors. Therefore, a person skilled in the art would

never increase the blanking period much beyond the limits given by Heimbuch to insure that a single multi-color image is perceived by the eye, rather than three images, each image being monochromatic.

On the other hand in the present invention, the eye clearly sees two images; image A and image B, as shown in Figs. 1A-1C. In these two images, an object is shifted spatially, and the purpose of the present invention is to project these images in a manner calculated to induce the blink effect. However, there is no question that while in the present invention, the intent is for the eye to see two images while in Heimbuch, the intent is for the eye to see only one image.

It is respectfully submitted that the reference fails to disclose or even suggest that motion perception can be improved by providing blanking intervals. Moreover, the duration of the blanking intervals disclosed in Heimbuch cannot be increased to the level disclosed because that would lead to the viewer seeing three different monochromatic images.

Accordingly, it is respectfully submitted that the subject application is patentably distinguishable over the prior art and should be allowed.

The Commissioner is authorized to use Deposit Account No. 07-1730 for any fees that may be required including fees for extensions. This is a continuing request.

Respectfully submitted,

GOTTLIEB, RACKMAN & REISMAN, P.C.
Attorneys for Applicant
270 Madison Avenue
New York, New York 10016-0601
Telephone: (212) 684-3900
Facsimile: (212) 684-3999

By:



Tiberiu Weisz
Reg. No. 29,876